

REMARKS

The Office Action.

In the Office Action dated July 18, 2002, the Examiner:

1. Rejected claims 1-4, 6-10, 12-17, 19-20, 22-24 and 26-28 under 35 U.S.C. § 102(b) as being anticipated by:
 - a. EP600205 (claims 1, 6-10, and 12);
 - b. JP10077438 (claims 1-4, 6-10, 12-17, and 19-33);
 - c. JP07118592 (claims 1-2, 6-10, and 12)
2. Rejected claims 5, 11 and 13-18 under 35 U.S.C. § 103 (a) as being unpatentable over
 - a. EP600205, JP10077438 or JP07118592 any of which in view of US 3,053,683 (Yolles (Claim 5),
 - b. EP600205, JP10077438 or JP07118592 any of which in view of either US 5,510,397 (Okuda et al.) (Claims 11 and 18); and
 - c. EP600205 or JP07118592 either of which in view of US6,099,629 (Morita et al.) (Claims 13-17);

The Claimed Invention.

The claimed invention relates to an aqueous glittering ink comprising scaly glittering particles, a water-soluble resin, a water-soluble organic solvent, a colorant, a binder component for fixing the said scaly particles to a written mark or a coated film and water. The scaly glittering particles have a median diameter of at least 10 μ m and a smooth metal surface. The ratio of smoothness on the particle surface to the median diameter is not greater than 0.011. And

the surface coating ratio of said colorant covering the surface of said particle's surface in a written mark is not greater than 30% in a state of a dried written mark.

The Anticipation Rejections.

Prior art under 35 U.S.C. § 102 must meet every element of the claimed invention and an anticipation rejection requires a showing that each limitation of a claim must be found in a single reference, practice or device. Hybritech Inc. v. Monoclonal Antibodies, Inc., 802 F. 2d 1367, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986); In re Donahue, 766 F. 2d 531, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985). See also MPEP 2131.

The rejection fails to present a showing that the following claim limitations are found in a single reference:

1. "the ratio of smoothness on the particle surface to the median diameter of not greater than 0.011";
2. "a surface coating of said colorant covering the surface of said particle's surface in a written mark of not greater than 80% in a state of a dried written mark";
3. "a binder component for fixing the said scaly particles to a written mark or a coated film"; and
4. "said scaly glittering glittering particles have ... a smooth metal surface."

The Ratio of Smoothness and The Surface Coating Ratio Parameters.

The Rejection has not fulfilled the requirement of each claim limitation being found in a single reference and the rejection does not present a prima facie case of anticipation under 35 U.S.C. §102. The Examiner has submitted no evidence for the presence of at least the following claim recitations:

1. “the ratio of smoothness on the particle surface to the median diameter of not greater than 0.011” and
2. “a surface coating ratio of said colorant covering the surface of said particle’s surface in a written mark of not greater than 80% in a state of a dried written mark.”

rather, the Examiner has concluded that they are inherent.

The Manual of Patent Examining Procedure is quite clear on what is required to support a rejection based on inherency. MPEP 2112.

“The fact that a certain result or characteristic **may** occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (revised rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). “To establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.’” *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted) (The claims were drawn to a disposable diaper having three fastening elements. The reference disclosed two fastening elements that could perform the same function as the three fastening elements in the claims. The court construed the claims to require three separate elements and held that the reference did not disclose a separate third fastening element, either expressly or inherently.).

“In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic **necessarily** flows from the

teachings of the applied prior art.” *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Applicant’s invention was directed to a biaxially oriented, flexible dilation catheter balloon (a tube which expands upon inflation) used, for example, in clearing the blood vessels of heart patients.) The examiner applied a U.S. patent to Schjeldahl which disclosed injection molding a tubular preform and then injecting air into the preform to expand it against a mold (blow molding). The reference did not directly state that the end product balloon was biaxially oriented. It did disclose that the balloon was “formed from a thin flexible inelastic, high tensile strength, biaxially oriented synthetic plastic material.” *Id.* at 1462 (emphasis in original.) The examiner argued that Schjeldahl’s balloon was inherently biaxially oriented. The Board reversed on the basis that the examiner did not provide objective evidence or cogent technical reasoning to support the conclusion of inherency.).

- (Bold emphasis supplied. Underlined emphasis in original.)

It is very clear from Applicants’ specification that each of these parameters is susceptible to variation and that it is the Applicants themselves that have selected specific numerical values for these parameters after due consideration. There is no objective evidence and no technical reasoning in the record that the ratio of smoothness on the particle surface to the median diameter of not greater than 0.011, or the surface coating ratio of colorant covering the surface of the particle’s surface in a written mark of not greater than 80% in a state of a dried written mark necessarily flow from the teachings of the applied citations.

There is no objective evidence in the record.

The Examiner has admitted that there is no explicit disclosure in EP600205, JP10077438, and JP07118592 of

- (1) the ratio of smoothness on the particle to the median diameter or

- (2) the surface coating ratio of colorant covering the surface of the particle's surface.

(Office Action dated October 11, 2001 at paragraphs 4, 5, 6 and 12.)

It, therefore, follows that the Examiner concedes that there is no disclosure of the specific numerical values claimed for (1) the ratio of smoothness to median diameter of not greater than 0.011 or (2) the surface coating ratio of not greater than 80%.

There is no objective evidence in the record that supports the proposition that

- (1) the concept of the ratio of smoothness on the particle to the median diameter

or

- (2) the concept of the surface coating ratio of colorant covering the surface of the particle's surface

is inherent.

Further, there is no objective evidence in the record that supports the proposition that

- (1) the ratio of smoothness to median diameter being not greater than 0.011

or

- (2) the surface coating ratio being not greater than 80%

is inherent.

There is no technical reasoning in the record.

In the Office Action dated October 11, 2001, the Examiner argued

“Further, there is no explicit disclosure in EP 600205 of the ratio of smoothness to diameter of the pigment particle or the surface coating ratio of the colorant on the pigment particle. However, given that EP 600205 disclose identical pigment particle as presently claimed including particle with the same diameter as presently claimed, it is clear that the pigment particle inherently possesses the ratio of smoothness to diameter as presently claimed and that the

surface covering ratio is inherently the same as presently claimed.”

- Paragraph 4 (Emphasis supplied.)

“Further, there is no explicit disclosure in JP 10077438 of the ratio of smoothness to diameter of the pigment particle or the smoothness of the written mark. However, given that JP 10077438 disclose identical ink as presently claimed including pigment particle with the same diameter as presently claimed, it is clear that the pigment particle inherently possesses the ratio of smoothness to diameter as presently claimed and that the written mark inherently possesses smoothness as presently claimed.”

- Paragraph 5 (Emphasis supplied.)

“Further, there is no explicit disclosure in JP 07118592 of the ratio of smoothness to diameter of the pigment particle or the surface coating ratio of the colorant on the pigment particle. However, given that JP 07118592 disclose identical pigment particle as presently claimed including particle with the same diameter as presently claimed, it is clear that the pigment particle inherently possesses the ratio of smoothness to diameter as presently claimed and that the surface covering ratio is inherently the same as presently claimed.”

- Paragraph 6 (Emphasis supplied.)

“The difference between EP 600205 and the present claimed invention is the requirement in the claims of (a) ratio of smoothness to diameter of the glittering particles and (b) surface coating ratio of the colorant on the pigment particle.

With respect to difference (a), it is noted that while EP 600205 disclose the diameter of the glittering particles, there is no explicit disclosure of the ratio of smoothness to diameter. However, given that the degree to which the pigment and thus the ink glitters depends on the smoothness of the pigment surface, it would have been obvious to one of ordinary skill in the art to choose pigment with ratio of smoothness to diameter, including that present claimed, in order to produce an ink with desired glittering effect, and thereby arrive at the claimed invention.

With respect to difference (b), it would have been within the skill level of one of ordinary skill in the art to

recognize that if the colorant covers to (sic) much of the glittering particles, this would lower or alter the level of glittering exhibited by the ink. Thus, it would have been obvious to one of ordinary skill in the art to choose colorants with particle size which would produce surface coating ratio, including that presently claimed, in order to ensure that the glittering particles are able to impart to the ink the desired level of glittering, and thereby arrive at the claimed invention.

- Paragraph 13 (Emphasis supplied.)

Each of these statements is a re-statement of the conclusion that the two ratio limitations are inherent. They are not technical reasoning as required by MPEP 2112. Further, there is no statement with respect to the specific numerical limitations (“not greater than 0.011” and “not greater than 80%”).

In the Office Action dated July 18, 2002, the Examiner has argued inherency as follows:

“In light of this, and given that the pigment disclosed in either EP 600205, JP 10077438, or JP 07118592 possess same average diameter as presently claimed, it is clear that the pigments would inherently possess ratio of smoothness to diameter and surface covering ratio as presently claimed. That is, in light of the teaching of Mitzutani et al. and “*Coloring Technology for Plastics*” that the pigments disclosed in either EP 600205, JP 10077438, or JP 07118592 are glittering plastics, these particles must necessarily inherently possess characteristics, including those presently claimed, which make them glittering. This includes the requirement in newly added claim 30 that the glittering particle have smooth metal surface. In light of this position, the burden now shifts to applicants to prove that the mica coated with iron oxide or titanium oxide of EP 600205, JP 10077438, and JP 07118592 which in each reference are known under the tradename Iriodin, do not in fact produce glittering ink or possess characteristics as presently claimed.”

- Paragraph 11 (Emphasis supplied.)

Again, this is a re-statement of the conclusion of inherency and does not provide technical reasons in support of that conclusion.

The rejection fails to establish a prima facie case of anticipation (or obviousness) and fails to support, in any effective way, a conclusion of inherency that would remedy the admitted deficiencies in the disclosures of the prior art.

The Binder Limitation.

With respect to JP10077438, the Examiner asserts:

“it is noted that JP 10077438 discloses the use of binder, i.e., resin emulsion, (paragraph 16, page 14 (11)) wherein the resin is film forming.”
- Office Action dated July 18, 2002, page 2, item 4, second paragraph

The entirety of paragraph 16 of JP 10077438 in the English translation provided reads:

“(11) ‘movinyl’ 970 (Hoechst synthesis Co., Ltd. brand name)
Styrene-acryl copolymer tree
A fat emulsion, 50% of solid contents, 102 degrees C of the glass transition temperatures of a resin”

Aside from the entries for “(11)” [MOVINYL 970] in Table 1 (paragraph 16, page 13) and Table 2 (paragraph 18, page 17), it appears that there is no other disclosure describing styrene-acryl resin emulsion in either the English translation or the Japanese text.

Hence, the basis for the Examiner’s assertion that JP 10077439 discloses (1) the use of a binder and (2) MOVINYL 970 as being film-forming is not understood.

Applicants request clarification of the source of the Examiner’s assertion.

Table 1 of JP 10077438 shows MOVINYL 970 being used only in formulating the composition of Comparative Example 3. Reference to Table 2 discloses that the performance of Comparative Example 3 is inferior. Paragraph 18 (page 17) of the English translation discloses, in pertinent part:

“The content of the symbol of the evaluation in a table is as follows:

Initial markability ability

...

△ : Handwriting tends to interrupt.

Aging markability ability

(1) Specimen pen A group (pen filled with ink of Examples 1-3 and Comparative Example 1-3)

It can write down like test before.

The number of cycles evaluated, having used five vertical shakings of the specimen pen required by the time it recovers so that handwriting of a color tone equivalent to the incipient stage may be obtained as 1 cycle.

...

X : Writing impossible

(2) Specimen pen B group (pen filled with ink of Examples 4 and 5 and Comparative Example 4 and 5)

...

X: Writing impossible”

A fair reading of JP 1007438 teaches against the use of a styrene-acryl resin emulsion, such as MOVINYL 970, as a component of an ink composition.

Also, with respect to JP 10077438, in the Office Action dated October 11, 2001, the Examiner asserted:

“It is also disclosed that the ink ingredients are mixed together which would intersperse the colorant among the coated mica pigment particles (paragraphs 4-7, 10, 16 and 18).”

- Office Action dated October 11, 2001, page 7, item 5, second paragraph

It appears that there is no specific text in either the English translation or the original Japanese text that discloses the foregoing. Applicants request clarification of the basis for the assertion.

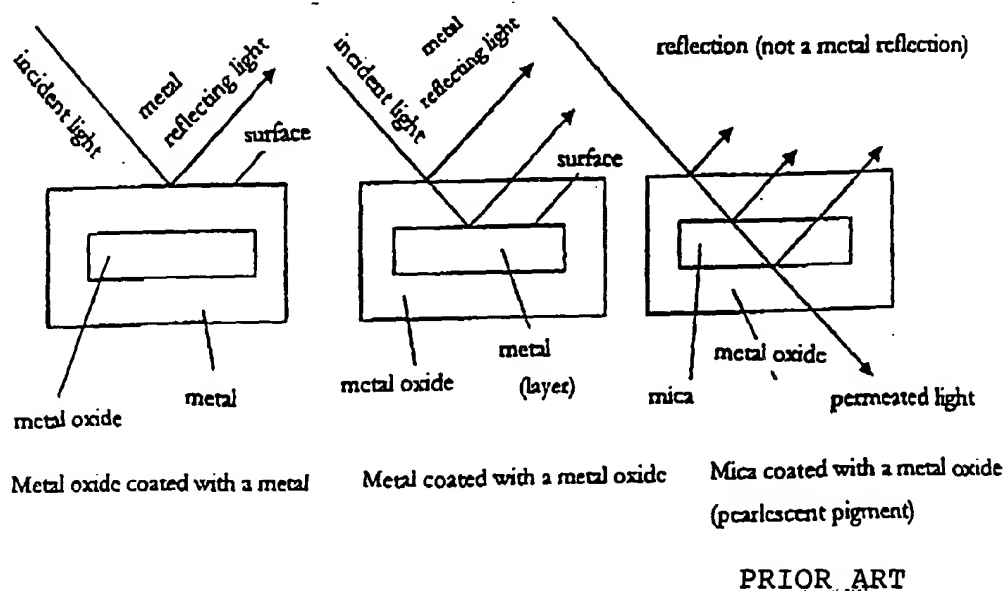
Further, U.S. Patent No. 6,099,629 to Morita specifically discloses resin emulsions with no film-forming property. (See column 6, lines 6-37.) Morita explicitly teaches against the use of emulsion having a film-forming property. Column 6, lines 15-19.

The cited art teaches against the use of styrene-acryl resin emulsions in ink compositions.

The Smooth Metal Surface Limitation.

There is a difference between (1) a scaly glittering particle having a smooth metal surface of the present invention and (2) a pearlescent pigment of the prior art.

The pigment of the present invention is a scaly glittering particle having a smooth metal surface, while a pearlescent pigment is typically mica coated with a metal oxide. A light reflection model of the present invention compared to a light interference model of a prior art pearlescent pigment is shown as follows:



As may be seen from this illustration, the pigment of the present invention is a pigment in which incident light produces a metallic reflection regardless of whether a surface of metal is the outer surface or an inner surface. In the prior art pigment, since a surface is a metal oxide and the inner portion of the particles is mica, the incident light hardly reflects on a metal oxide surface

and the light is refracted from the surface of metal oxide through the inner portion of the particles and permeates. Since the inner portion of particles of pearlescent pigment is mica, the light permeated from the surface of metal oxide is further refracted within the particles of mica permeates, and again permeates through the inner layer of metal oxide which is situated on the opposite surface of the mica particles and outgoes to the outer portion of the pigment particles. On the other hand, regarding the light that permeates through the metal oxide layer, a portion of the light is reflected on the mica surface in the inner portion of surface particles and this reflected light permeates through the metal oxide layer and is refracted, thereafter outgoing from a surface of metal oxide to the outer portion of the particles. The pearlescent luster is a color produced by the difference in light path, or interference, between the light slightly reflecting on the surface of metal oxide with most of the incident light permeating in the inner portion of the pigment particles and the said refracted light which is refracted and reflected in the inner portion of pigment particles. This effect is explained further in the attached text "Handprint: Interference Paints" (Exhibit A). ([URL:http://www.handprint.com/HP/WLC/pigmt4.html](http://www.handprint.com/HP/WLC/pigmt4.html)). Therefore, since a pearlescent pigment is a pigment that provides pearlescent color, it is nothing but a "color" and even when it is mixed with other colorants, such as blue or red, it is realized as, for example, a blue-tinged pearlescent color or a red-tinged pearlescent color. On the other hand, in the pigment of the present invention with metallic reflection, metal reflection pieces are scattered in a blue color. These written marks are remarkably different from each other and it is impossible not to recognize them as different pigments.

The claims of the present application are directed to a scaly glittering particle having a smooth metal surface. Therefore, it is essentially different from the pigments of JP10077438, JP7118592 or EP600205, whose coated surface is a metal oxide and whose inner portion of the

pearlescent pigment particle is exemplified by mica, or the like, coated with titanium oxide or iron oxide.

When a pigment having a surface of a metal on an inner or outer surface of the pigment particles is used, a light is produced that is a metallic reflection on the inner surface of the particles or the outer surface of the particles and the pigment glitters with a reflection light. On the other hand, when the prior art pigment particles whose coated surface is coated with a metal oxide, such as titanium oxide or iron oxide, and whose inner portion is mica, light does not reflect but incidents and is refracted partially in the inner portion instead, thereby merely providing a pearlescent luster to an ink.

With regard to U.S. Patent No. 6,280,837 and the “Coloring Technology for Plastics” article, while they may disclose that within the ambit of a pearlescent pigment that may exhibit glitter, that “glitter” is inferior to the present invention. The specification of the present invention discloses that a pearlescent pigment is a glittering pigment at page 1, lines 24 to 26). However, Applicants assert that pearlescent pigment does not produce a “strong glittering feeling and spatial effect”. In Table 1 of the specification of the present invention, a pearlescent pigment is shown as a “glittering pigment,” but the glittering feeling and spatial effect are unacceptably poor. With regard to Table 1, as stated at page 49, lines 23 to page 50, line 1 of the specification of the present invention, a “strong glittering feeling” is evaluated as an “o”, while a weak or no glittering feeling is evaluated as an “x”. The pearlescent pigment in the Table is evaluated as x since it has a weak glittering feeling.

Further, concerning this experimental result, it is stated that “in Comparative Examples 1 and 2, a written mark with a little and weak glittering feeling was obtained but no spatial effect was obtained” (page 51; lines 13 to 16). As shown in Table 1, the visual evaluation of a

glittering feeling of the present invention is made in comparison to that of a pearlescent pigment and the strength or weakness is evaluated. Further, in addition to this, the evaluation of spatial effect is made and one obtains a functional evaluation “like a stardust glittering in a night sky”. Therefore, it should be noted that in the invention of the present application, a “glittering feeling” and a “spatial effect” are those evaluated in comparison to those of a pearlescent pigment and are juxtaposed against a pearlescent pigment.

Although the “Coloring Technology for Plastics” article states that a pearlescent pigment has an effect from satin to glitter by changing the mica particle diameter (page 324, lines 4 to 3 from the bottom), the article does not go so far as to state that a strong glittering feeling and a spatial effect “like a star dust glittering in a night sky” is obtained as stated in the specification of the present invention.

Further, the “Coloring Technology for Plastics” article states that “a pearlescent pigment is often used without adding any additional colors” and that “when combined with a transparent pigment, a colored plastic is made” (page 324 line 2 from the bottom to page 325 line 1). From this statement, it is clear that the present invention limiting the coating ratio of a colorant to a glittering particle is not taught or suggested in this publication. The same applies to U.S. Patent No. 6,280,837.

The essential difference between a pearlescent pigment and a glittering pigment lies in whether a metal surface is present or not. With a smooth metal surface as specified in the present claims, “a strong glittering feeling and a spatial effect” that is incomparable to that of a pearlescent pigment is produced. Since a pearlescent pigment has a metal oxide surface, light does not make specular reflection, but it permeates and is refracted. “Pearlescent color” as stated in U.S. Patent No. 6,280,837 appears to be due to this refraction of light and it is clear from a

technical viewpoint that the “silver white, interference color, gold color, and earth color” (page 324, lines 5 to 6 from the bottom) stated in the “Coloring Technology for Plastics” article is due to this refraction of light too.

Therefore, even though a pearlescent pigment may be characterized as a “glittering particle” in U.S. Patent No. 6,280,837 and the “Coloring technology for Plastics” article, it is not a glittering particle as set forth in the claims of the present application and, more particularly, a pearlescent pigment cannot realize a glittering feeling as generated by the present invention.

The Obviousness Rejections.

The Final Rejection also has not presented a prima facie case of obviousness under 35 U.S.C. §103. A prima facie case of obviousness requires that three basic criteria must be met. “First, there must some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.” MPEP 2143 (Emphasis supplied.)

For the reasons previously stated with respect to inherency, the references do not teach or suggest all the claim limitations.

As mentioned previously, the values of (1) the ratio of smoothness to median diameter, and (2) the surface coating ratio specify numeric values in relation to the glittering particles having the reflection surface that glitters, are not set forth in the cited references, nor are they inherent.

As to the alleged obviousness of choosing pigment with a ratio of smoothness to median diameter, the cited art contains no teaching of a desired numeric value of smoothness nor

a correlation of a numeric value of smoothness to a numeric value of median diameter. It is absent from the art. And cannot be supplied, except from the present Applicants' own teaching.

The same applies to the surface coating ratio.

This is particularly clear with respect to the specific numerical limitations.

Similarly, the cited art does not teach a binder component for fixing scaly particles having a smooth metal surface to a written mark or a coated film.

There has been no citation to the art itself to support the obviousness rejections in these respects.

Within the context of the glittering particles in the present invention, the present invention balances particle diameter, smoothness ratio, and surface coating ratio. For example, even when the particle diameter achieves a satisfactory level, unless the smoothness ratio and the surface coating ratio are satisfactory, it is not possible to obtain the satisfactory strong glittering feeling and spatial effect. The gist of the present invention lies in the balance achieved by the claimed recitations. This balance is not taught, suggested or motivated by the citations.

CONCLUSION

In view of the foregoing amendments and remarks, reconsideration and allowance of the application are respectfully requested.

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Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Twice Amended.) An aqueous glittering ink comprising
scaly glittering particles,
a water-soluble resin,
a water-soluble organic solvent,
a colorant,
a binder component for fixing the said scaly particles to a written mark or a
coated film; and,
water,
wherein said scaly glittering particles have
a median diameter of at least 10 μ m and a smooth metal surface,
the ratio of smoothness on the particle surface to the median diameter of not
greater than 0.011, and
a surface coating ratio of said colorant covering the surface of said particle's
surface in a written mark of not greater than 80% in a state of a dried written
mark.
19. (Twice Amended.) A method for forming a written mark comprising glittering
particles, wherein glittering particles have a median diameter of at least 10 μ m and a smooth
metal surface, the ratio of smoothness on the particle surface to said median diameter is not
greater than 0.011, and the coating ratio of a colorant to scaly glittering particles to said median
diameter is not greater than 80%, interspersing the scaly glittering particles within the range of

not greater than 80% to the total written surface, and interspersing said colorant's particles among said glittering particles.

20. (Twice Amended.) A method for forming a written mark comprising glittering particles, wherein glittering particles have a median diameter of at least 25 μm and a smooth metal surface, the ratio of smoothness on the particle surface to said median diameter is not greater than 0.011, and the coating ratio of a colorant to scaly glittering particles to said median diameter is not greater than 40%, interspersing the scaly glittering particles within the range of 20 - 45% to the total written surface, and interspersing said colorant's particles among said glittering particles.

23. (Amended.) A written mark having the characteristics of the aqueous glittering ink, wherein glittering particles have a median diameter of at least 10 μm and a smooth metal surface, the ratio of smoothness on the particle surface to the said median diameter is not greater than 0.011, and the coating ratio of a colorant to scaly glittering particles is not greater than 80%, interspersing the scaly glittering particles within the range of not greater than 80% to the total written surface, and interspersing the said colorant's particles among the said glittering particles.

24. (Amended.) A written mark having the characteristics of the aqueous glittering ink, wherein glittering particles have a median diameter of at least 25 μm and a smooth metal surface, the ratio of smoothness on the particle surface to the said median diameter is not greater than 0.011, and the coating ratio of a colorant to scaly glittering particles is not greater than 40%, interspersing the scaly glittering particles within the range of 20 ~ 45% to the total written surface, and interspersing the said colorant's particles among the said glittering particles.

27. (Twice Amended.) A ball-point pen with an aqueous glittering ink filled in the ink tank comprising scaly glittering particles, a water-soluble resin, a water-soluble organic solvent,

a colorant, a binder component for fixing the said scaly glittering particles to a written mark or a coated film, and water, wherein said scaly glittering particles have a median diameter of at least 25 μm and [have] a smooth metal surface, a thixotropy index of not less than 1.3, represented by the ratio of V0.5 to V1.0 ($V0.5 / V1.0$), wherein V0.5 is the viscosity with the rotation speed of 0.5 rpm and V1.0 is the viscosity with the rotation speed of 1.0 rpm when the ink is measured by an ELD viscometer with a 3°R14 cone, at a temperature of 20°C and the V0.5, the viscosity with the rotation speed of 0.5 rpm, of 1000 - 15000 mPa.

29. (Amended.) A method for forming a coated film comprising glittering particles, wherein the glittering particles have a median diameter of at least 10 μm and a smooth metal surface, the ratio of smoothness on the particle surface to said median diameter is not greater than 0.011, and the coating ratio of a colorant to the scaly glittering particles to said median diameter is not greater than 80%, interspersing the scaly glittering particles within the range of not greater than 80% to the total written surface, and interspersing said colorant's particles among said glittering particles.

30. (Amended.) An aqueous glittering ink comprising scaly glittering particles, a water-soluble resin, a water-soluble organic solvent, a colorant, a binder component for fixing the said scaly glittering particles to a written mark or a coated film, and water, wherein said scaly glittering particles have a median diameter of at least 10 μm and a smooth metal surface, the ratio of smoothness on the particle surface to the median diameter is not greater than 0.011, and a surface coating ratio of said colorant covering the surface of said particle's surface in a written mark is not greater than 80% in a state of a dried written mark.